The Submarine Division of the Naval Safety Center Presents:

FLASH

Factual Lines About Submarine Hazards

October 2000 – January 2001

Table of Contents

Naval Safety Center
375 "A" Street
Norfolk, Virginia 23511-4399

submarines@safetycenter.navy.mil
www.safetycenter.navy.mil

FLASH Editor: FTC(SS) Jay Bramble Ext. 7202
E-Mail: jbramble@safetycenter.navy.mil

Afloat Directorate Head: CDR Tom Warner Ext. 7127
E-Mail: twarner@safetycenter.navy.mil

Commander Naval Safety Center
RADM Frank (Skip) Dirren Ext. 7000
E-Mail: fdirren@safetycenter.navy.mil

THE SURVEYORS

Safety Officer/General/Departmental
LCDR Lance Zahm Ext. 7100
lzahm@safetycenter.navy.mil

LCDR Parker Swan
pswan@safetycenter.navy.mil Ext. 7201

DC/Mechanical/Electrical/Electronic
MMCM(SS) John Mosholder Ext. 7099
jmosholder@safetycenter.navy.mil

EMCM(SS) José Mediavilla Ext. 7092
jmediavilla@safetycenter.navy.mil

ETC(SS) Craig Houck Ext. 7098
chouck@safetycenter.navy.mil

Medical
HMCS(SS) Brett Darnell Ext. 7094
bdarnell@safetycenter.navy.mil

Combat Systems/Deck/Divers
MMC(SS) Mark Gallenstein Ext. 7091
mgallenstein@safetycenter.navy.mil

STCM(SS) Bob Krzywdzinski Ext. 7097
bkrzywdzinski@safetycenter.navy.mil

FTC(SS) Jay Bramble Ext. 7202
jbramble@safetycenter.navy.mil

Phone: 757-444-3520 (DSN 564)
Fax: 757-444-8636 (DSN 564)

WARNINGS, CAUTIONS AND NOTES

The FLASH is a quarterly newsletter that provides safety-related information to the fleet. This information is a summary of research from selected mishaps and surveys done throughout the force. This data is provided to assist you in YOUR mishap prevention program and gives advanced notice of other safety-related information.

This newsletter is NOT authoritative but will cite references when available.

Editor's Note

FTC(SS) Jay Bramble

As you can tell we have changed FLASH again. Each issue of the FLASH costs over $1000.00 to produce. We have figured out how to save over 75% of those costs and maintain the quality. The old way we published FLASH was to pick up the printed issues from the printers, then everyone in the office would sit down, stick labels on the envelops and then stuff each envelope with the proper number of FLASH for each command.

Now we are moving to an automated process that prints, fold and inserts **one** issue of FLASH into an envelope. Because of this new process, you will be getting numerous envelopes from us with your FLASH inside, each one addressed to the division chief petty officer and the department heads at your command. This new process also is limited to inserting a maximum of four sheets (eight pages) into each envelope.

If you know that you should be getting a copy or would like a copy of the FLASH and you were not specifically addressed/sent one, please call/E-mail us and we'll add you to the distribution list.

jbramble@safetycenter.navy.mil
or
Submarines@safetycenter.navy.mil

Garbage Grinder Electric Shock Alert!!

ETC(SS) C. Houck

Recently several messages have hit the streets concerning garbage grinders installed on 688 class submarines per SHIPALT SSN4102K. This SHIPALT incorrectly installed the garbage grinders without a grounding strap thus providing a potential electrical shock hazard to personnel.

COMSUBPAC MSG 201534Z OCT 00 (NOTAL) and COMSUBLANT MSG 131444 NOV 00 (NOTAL) provided a list of submarines (10 Pacific; 11 Atlantic) that planning yard records show have SSN4102K, and need to install the grounding strap. These messages also provide guidance for installing it and reporting requirements. The submarines with SSN4102K are:

USS Los Angeles, USS La Jolla, USS Olympia, USS Honolulu, USS Helena, USS Santa Fe, USS Tucson, USS Columbia, USS Greeneville, USS Cheyenne, USS Hyman G Rickover, USS Norfolk, USS Providence, USS San Juan, USS Scranton, USS Annapolis, USS Boise, USS Montpelier, USS Hampton, USS Albany, and USS Philadelphia.

Shipboard Cleanliness, Where Dirt Is Not The Only Enemy

STSCM(SS) R. Krzywdzinski

Shipboard cleanliness is a never-ending process of field days and afterwatch cleanups all with one goal in mind. That goal is to eliminate the **evil enemy**, dirt. However dirt is not the only enemy out there. The other enemy is **operating machinery**.

Recently, several Sailors have been injured due to entanglement with equipment. Injuries range from puncture wounds and fractures to severe bruising and crushing. One of the most hazardous areas is shaft alley where multiple dangers exist. Some of these include but are not limited to the main propulsion shaft, sternplanes ram, rudder rams and their associated assemblies.

Sailors have been injured by inadvertently stepping on the main shaft (while underway) then falling into the bilge. Others have been crushed or pinned by the sternplanes and or rudder rams resulting in serious injuries. Thankfully no lives have been lost, but the potential is there. When cleaning near areas that pose such a danger, Sailors must use extreme caution in areas were the potential of entanglement exists. Using proper cleaning instruments would prevent this. Sometimes situational awareness is lost when personnel are involved with an evolution. This is where supervision comes in.

The role of supervisors is vital and cannot be overstated. Personnel assigned to clean in these areas should be briefed on all dangers related to the space and how to avoid them. As with any evolution the right level of over-sight will prevent most accidents from happening. Shipboard cleanliness is important but safety is paramount. Weigh the risks against the benefits before starting any operation near shaft alley or other hazards. If it is necessary to go forward with the task, do everything possible to eliminate or minimize the identifiable risks before work starts.

Good supervision includes evaluation of how effective the controls are, being watchful for changes in operating conditions and making the right decisions as circumstances change.

Notice to (Sub)Mariners

Two of our surveyors are retiring this summer, an EMCM and MMC (Weapons). If you are eligible for shore duty and like the Norfolk area, contact your detailer for more information.

Submarine Scuba Diving

HTCM(DSW/SW/MDV) L. Matteoni

This is for all submarine scuba divers. Over the past few months, Code 37 (Diving Division) has been providing surveyors and technical assistance to Code 38 (Submarine Division) while performing submarine safety surveys. In some cases, what we have discovered is distressing. Listed below are the most common discrepancies we have seen.

a. Equipment is not stowed properly (e.g., scuba regulators and buoyancy compensators wadded up and stuffed into a very small locker).

b. Revision 4 of the U.S. Navy Diving Manual is not being used, or the most recent changes are not entered in the manual.

c. Current messages to AIG 239 are not kept or posted where all divers have access to them.

d. CPR qualifications have lapsed.

e. Regulator over-bottom pressure is set incorrectly.

f. Technical manuals are either not available or in such poor condition that they are no longer usable.

g. Gauges are out of calibration.

h. Equipment maintenance is not entered properly in PMS.

i. Diver training is not conducted regularly.

j. Diving requalifications are not entered in personnel records.

We understand that being a submarine scuba diver is a collateral duty, however, that is not an excuse for inattention to detail.

I strongly recommend you take a good look at your diving lockers -- what you find might surprise you. If your locker has some or all of the aforementioned problems, you are setting yourself up for a diving mishap. Correct the discrepancies and check your program often; it will make things safer for your divers. If you need any help, please don't hesitate to contact us or your local dive locker for more information or assistance.

Editors note: HTCM (MDV) Matteoni was recently relieved by HTCM(MDV) Ken Hinkebein. He can be reached at ext. 7082 or email: khinkebein@safetycenter.navy.mil

Atmosphere Control! What's That!?

HMCS(SS) Brett Darnell

Based on what I've seen and heard on recent safety surveys, the atmosphere control program is an endangered species on submarines these days. There are many aspects of the program that seem to have fallen by the wayside.

Material Control Program – what is it?

The material control program is the portion of the atmosphere control and hazardous material/hazardous waste programs that is intended to control all materials used in submarines in order to prevent contamination of the atmosphere. All materials contemplated for use in submarines require testing and certification and the assignment of a usage category that defines the circumstances under which a specific material may be carried/used on board a submarine. There are many compounds and substances that our atmosphere systems are not able to remove from the submarine atmosphere that may be harmful to personnel or equipment.

Here's what the usage categories are and what they mean:

PROHIBITED – Not allowed on board submarines **at any time** except under **specific exemptions**.

RESTRICTED – Not allowed on board submarines while underway, except under specific exemptions, although may be used on board in limited quantities while **in port and ventilating outboard**.

LIMITED – May be used while underway for a specific purpose and for which no completely non-toxic substitute exists. Shall not be carried on board in excess of required quantities.

PERMITTED – No restrictions.

The XO is the only one who can grant permission to bring prohibited items on board. He also must grant written permission to carry and or use prohibited or restricted items on board during an underway period. However, **all hands** must be alert to prevent toxic or potentially toxic materials from being brought on board without authorization, and report any items found to be prohibited, restricted or limited to the hazmat coordinator.

To find out what items are prohibited, restricted, etc. Appendix A of the Submarine Atmosphere Control Manual. It lists usage categories for submarine materials. Some common items that we find on submarines and their usage categories are.

Aerosol (pressurized) dispensers are PROHIBITED. Many use substances like propane as a propellant. Also, if the container gets ejected as trash, sea pressure will cause the container to implode – not very stealthy. If your shave cream container has a rubber plug on the

Atmosphere Control! What's That!? Continued….

bottom of the can, it uses an air filled rubber bladder to pressurize the product, not aerosol propellant, so that type of can is legel. But not for TDU ops.

Cleaning compounds, Formula 409, and Spray and Wipe are limited. Spic and Span is restricted. Wescodyne is permitted. Paints – all oil base paints are prohibited; polyurethane paints are prohibited, high temp silver – prohibited.

What about personal hygiene products? After shave lotions permitted, stick, paste or cream deodorants permitted, all aerosol cans – you guessed it, prohibited. Brasso, Never Dull and brass polish are permitted. Johnsons and Kiwi shoe polishes are limited. Isopropyl alcohol is limited.

Chances are there are some things in your lockers that should not be there. Familiarize yourself with the material control program and appendix A now to avoid health or equipment problems later.

Vacuum Cleaners (Portable Electrical Equipment)

By ETC(SS) Craig Houck

Vacuum cleaners, particularly the wet/dry types, have been taking a bite (electrical shocks) out of our Sailors. With that in mind, now is as good a time as any to revisit electrical safety for portable electrical equipment. The following safety precautions for portable electrical equipment are paraphrased from **NSTM 300-2.7** and **OPNAVINST 5100.19C Chapter D-5** and **OPNAVINST 5100.19D Chapter D-5**.

Portable electrical equipment is a device that will be plugged into a shipboard isolation receptacle and operate with the ship's electrical power (example: drills, grinders, sanders, ventilation blowers (Red Devil), deck buffers, circular saws, deck strippers, drop lights, vacuum cleaners, soldering guns/irons, coffee makers, etc). All such equipment is subject to safety checks. The hazards associated with the use of portable power equipment include electrical shock, bruises, cuts, particles in the eye, falls, and explosions. Safe practice in the use of this equipment will reduce or eliminate such accidents. Listed below are **some** of the general safety precautions that shall be observed when work requires the use of portable electrical equipment. The use of portable electrical equipment can be potentially hazardous. These safety procedures and policies should be practiced.

a. Wear approved electrical grade rubber gloves when using electric handheld portable tools in hazardous conditions, such as wet decks and bilge areas. Leather gloves shall be worn over rubber gloves when the work being done could damage the rubber gloves.

Vacuum Cleaners (Portable Electrical Equipment) Continued.

b. Wear eye protection when working where particles may strike the eyes.

c. Wear hearing protection (earplugs or circumaural type muffs that cover the entire outer ear) when working with noise producing tools or in the area of such work.

d. Do not use spliced cables.

e. Do not use any portable electrical equipment that has a frayed cord or broken/damaged plug.

f. Make sure that the on/off switch on the portable equipment is in the off position before inserting or removing the plug from the ac power receptacle.

g. Always connect the cord of portable electrical equipment into the extension cord before the extension cord is inserted into an energized receptacle.

h. Always unplug the extension cord from an energized receptacle before the cord of the portable electrical equipment is unplugged from the extension cord.

i. Arrange the cables so that they will not create a tripping hazard.

j. Never pick up the tool by the electrical cord.

k. When drilling/cutting through bulkheads, check opposite side for cables and pipes.

l. Only use electric equipment in explosive atmospheres if the equipment is approved for such use (explosion proof).

m. Do not allow cords to run through hatches, chemicals, scuttles, or watertight doors or over sharp objects or hot surfaces.

n. Do not join more than two 25-foot extension cords together.

o. When it is necessary to run electrical leads through doors or hatches, protect the cord to guard against accidental closing of the door or hatch.

p. Return portable electrical power tools, drop cords, and extension cords, to the proper location to prevent damage to the equipment.

q. Use only COMNAVSEASYSCOM authorized extension lights for shipboard use in order to eliminate or drastically reduce the many hazards associated with the use of unauthorized commercial grade lights.

r. Do not touch a conductor, until it is tested to be sure it is de-energized.

s. Obey all warning signs; read equipment warning labels before use.

t. Never work on live (energized) electrical equipment without the commanding officer's permission.

u. Use all safety precautions in NSTM Chapter 300 when working on energized circuits or equipment.

Remember that this is not all of the general safety precautions referenced in NSTM 300-2.7 and OPNAVINST 5100.19C and 5100.19D. Last, but not least, **common sense (ORM)** is strongly recommended and authorized! Let's stop taking showers with blow dryers!

Electrical/Electronic and Mechanical Hazard Reviews Updated

ETC(SS) C. Houck

One of the more useful items that safety center publishes are the hazard reviews. The hazard reviews lists some of the more common deficiencies found during safety surveys. Not only do the reviews list the references for each item, but they also provide helpful stock numbers for equipment that may be needed to correct any deficiencies. In October of 2000, I updated the Submarine Electrical/Electronic and Mechanical hazard reviews. They are on the Safety Center's web site (http://safetycenter.navy.mil/afloat/download/SubGen.htm). If you have any questions contact me at (757) 444-3520 Ext. 7098 (DSN 564-3520 Ext. 7098) or e-mail chouck@safetycenter.navy.mil

Effective COMNAVSAFECEN Afloat Safety Advisories

Year 2001

8-00	**2211814Z JUN 00**	**Possibly Defective OBA Canisters**
11-00	**251220Z AUG 00**	**Inoperative OBA Canisters**
13-00	**201909Z OCT 00**	**GPS and Charts**
15-00	**251409Z OCT 00**	**COMNAVSAFECEN Security Clearance Information**
17-00	**201959Z DEC 00**	**Contract Liberty Boat (Water Taxi) Safety**
1-01	**041730Z JAN 01**	**Effective Afloat Safety Advisories**
2-01	**121615Z JAN 01**	**COMNAVSAFECEN Security Clearance Information**
3-01	**191215Z JAN 01**	**Follow-up on NAVSAFECEN Afloat Advisory 8-00**